

NIE Networks consultation “A Future Network for All”

Comments by

Northern Ireland Environment Link

7th November 2021

Northern Ireland Environment Link (NIEL) is the networking and forum body for non-statutory organisations concerned with the natural and built environment of Northern Ireland. Its 66 Full Members represent 190,000 individuals, 262 subsidiary groups, have an annual turnover of £70 million and manage over 314,000 acres of land. Members are involved in environmental issues of all types and at all levels from the local community to the global environment. NIEL brings together a wide range of knowledge, experience and expertise which can be used to help develop policy, practice and implementation across a wide range of environmental fields.

These comments are made on behalf of Members, but some members may be providing independent comments as well. If you would like to discuss these comments further, we would be happy to do so.

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NIEL welcomes the opportunity to comment on the NIE Networks consultation “A future network for all” the RP7 price control for the period 2025-2031. Rather than addressing all the questions posed in the consultation, NIEL will focus on some of the main environmental questions raised in the consultation.

NIEL welcomes the commitment of NIE Networks on page 44 of the consultation document to “ensure our processes and polices are smart and flexible to enable the 80% renewable target outlined in the Climate Act NI to be met”.

NIEN’s top ten environmental priorities

NIEL notes the ten environmental considerations/priorities as outlined on page 59 of the consultation. The main issue for NIEL is the need for NIE Networks to set SMART targets for reducing its environmental impact. While the ten priorities listed are all good principles, the question is to what extent will those principles be applied and by when? Given the best and most up to date scientific evidence in relation to greenhouse gas (GHG) emissions and the targets in the [Climate Change Act \(Northern Ireland\) 2022](#), NI will need to reduce its greenhouse gas emissions by 100% by 2050 and by at least 48% by 2030 compared to the 1990 baseline. In that context, while NIEL supports NIE Networks aiming to reduce the GHG emissions of its operations, if NIE Networks were to propose to do so by 20% by 2030, NIEL would instead encourage NIE Networks to reduce its GHGs by at least 48% by 2030. Similarly, the target referred to in Figure 17 on page 56 relates to an 82% reduction of GHGs by 2050 rather than the target in the Climate Change Act (Northern Ireland) 2022 for a reduction in GHGs of 100% compared to the 1990 baseline by 2050, which is the target NIEL believes should also be NIE Networks’ target.

NIEL would encourage NIE Networks to set SMART targets for its environmental priorities, aims and/or goals. In addition to the need for each of the goals to be written in a way that ensures they are SMART, NIEL would suggest those priorities should be ranked as follows.

- 1 Helping reduce the environmental impact of our supply chain
- 2 Reducing our business carbon footprint
- 3 Moving away from SF6 use
- 4 Reducing network losses
- 5 Decarbonising our fleet
- 6 Quantifying and reducing embodied carbon
- 7 Minimising waste to landfill
- 8 Quantifying and improving biodiversity/natural capital
- 9 Replacing worst performing fluid filled cables
- 10 Reducing fluid leaked from fluid filled cables

The goal to have 70% of NIE Networks vehicle fleet electrified by 2030

In relation to the proposed goal for 70% of NIE Networks' fleet to be electrified by 2030, NIEL would encourage NIE Networks to aim higher and have a 100% electric fleet by 2030. NIEL understands this is likely to involve greater costs earlier in the process of electrification but as the consultation document says (on page 49) not only are net savings compared to continuing with diesel vehicles to be expected as a result but NIEL believes it is important that NIE networks should lead by example. NIEL believes it would send out an important positive message if NIE Networks were to commit to having a completely electric fleet of vehicles. This would also contribute to NIE Networks other targets such as that to reduce the organisation's carbon footprint and reduce the environmental impact of the supply chain (by decarbonising the fuel supply). Equally, if NIE Networks does not or can not commit to have a 100% electric fleet, it would cast doubt as to how easy it would be for other organisations to commit to a 100% electric fleet of vehicles.

The use of sulphur hexafluoride (SF₆)

NIEL welcomes the commitment from NIE Networks to moving away from sulphur hexafluoride (SF₆) use, though again the question remains to what extent SF₆ use will be reduced and by when. 80% of all SF₆ is used in the electricity industry in circuit breakers and switchgear¹.

SF₆ has a Global Warming Potential (GWP) of around 23,500 over a 100-year time horizon, which means that it is approximately 23,500 times as effective as Carbon Dioxide (CO₂) in warming the planet^{2,3}. This makes it the most potent greenhouse gas regulated under the Kyoto Protocol⁴ and it has been identified as the most potent and persistent greenhouse gas in existence⁵. As there are no sinks or disposal methods for SF₆, it continues to accumulate in earth's atmosphere. However, there are alternatives to SF₆ and the use of those alternatives and the need to recycle SF₆⁶ must be implemented by the energy sector to prevent as far as practicable any further leakage of SF₆ into the atmosphere.

Net zero and the need for a more integrated and flexible system

The UK Climate Change Committee (CCC) provided further detail on the financial implications of net zero in a letter to the AERA Minister dated 1st April⁷ when it said the following:

“A slower path to decarbonisation in Northern Ireland would bring large-scale risks that would be difficult to manage”

“In addition to green recovery opportunities and the investment requirements and operational savings, there is overwhelming evidence that reducing greenhouse gas emissions will be beneficial to public health in Northern Ireland.”

“Our scenarios require that almost all new purchases and investments in Northern Ireland are in zero-carbon solutions by 2030 or soon after, and virtually all technology in Northern Ireland is zero-carbon by 2050.”

NIEL would therefore encourage NIE Networks to ensure its business decisions are compatible with net zero.

NIEL welcomes and supports the approach outlined in chapter 4 of “Facilitating net zero through a flexible and integrate energy system”. Having a more flexible and integrated system will be necessary to incorporate more renewable energy sources, especially when those sources are intermittent, to allow for a broader range of renewable sources to contribute to the energy mix. However, NIEL believes there is also a role for much more decentralised renewable energy. The development of a Smart grid should help with the timing and cost of charging and EVs and the opportunities that exist for EVs to act as short term storage for electricity that could be pumped back in to the grid at times of need.

There is a potentially important role for greater storage which can help to accommodate variable renewables onto the system. Northern Ireland has recently begun to see a number of battery storage projects, with an estimated 184MW of storage potential in the pipeline.

It is also important that minimising or reducing the overall demand for energy has to be a major part of the drive to decarbonise energy. NIEL notes that NIE Networks is working on the premise that demand for electricity will increase by around 10% but possibly up to 20% compared to RP6, primarily due to factors including greater electrification of vehicles and greater use of electricity for heating purposes. While it is likely demand for electricity will increase in some sectors for the reasons given, the drive to minimising demand needs to be at the core of our energy strategy. The use of SMART meters, decentralised energy, battery storage and demand management all have an important role to play in minimising the growth of demand for electricity.

As far back as 2002, the potential for saving energy was highlighted by the Cabinet Office’s Performance and Innovation Unit (PIU) 2002 report on energy efficiency which found that there is the potential to save approximately 30% of final energy demand across all sectors amounting to reduced costs to customers of £12,300,000,000 (£12.3 billion) annually.

According to the National Infrastructure Committee⁸ smart power – principally built around three innovations, Interconnection, Storage, and Demand Flexibility – could save consumers

up to £8 billion a year by 2030, help the UK meet its 2050 carbon targets, and secure the UK's energy supply for generations. According to The Carbon Trust⁹ ,

“Energy storage could save £2.4 billion a year system wide by 2030; if regulatory hurdles are overcome this could rise to £7 billion a year.”

Accounting for the potential for smart power and energy storage to reduce overall demand NIEL would encourage NIE Networks to invest more in those options.

Adaptation

As well as helping to mitigate climate change NIEL believes that the planning of NI's renewable and fossil fuel free energy system needs to adapt to climate change so that the system is designed to be able to withstand the greater risks from extremes in weather that are predicted for example, by the third Climate Change Risk Assessment¹⁰ which highlighted

“Risks to infrastructure networks (water, energy, transport, ICT) from cascading failures.”

“Risks to business locations and infrastructure from coastal change from erosion, flooding and extreme weather events.”

These risks need to be accounted for in the upgrading of existing systems and the design of any new systems.

Appropriate assessments and biodiversity

Another important consideration is the need for an appropriate assessment of the overall environmental impact of proposed developments. NIEL supports the development of renewable energy as a means of tackling climate change but we face both a climate crisis and a biodiversity crisis as illustrated by the declaration of both a climate crisis and a biodiversity crisis by the Northern Ireland Assembly on 3rd February 2020¹¹. Any new renewable energy developments designed to tackle the climate crisis should not have a negative impact on biodiversity.

-ENDS-

References

¹ Powell, A.H., 2002. 'Environmental aspects of the use of Sulphur Hexafluoride'. ERA Technology Ltd.

² https://www.ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf

³ <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/PDF%20of%20summary%20document%20of%20NI%20SF6%20Scoping%20survey%20Aether.pdf>

⁴ <https://energypost.eu/why-the-eu-should-ban-sf6/>

⁵ <https://www.ee.co.za/article/health-environmental-dangers-sf6-filled-switchgear.html>

⁶ <https://e-cigre.org/publication/234-sf6-recycling-guide-revised-version-2003>

⁷ <https://www.theccc.org.uk/publication/letter-economic-costs-of-setting-and-delivering-a-2050-emissions-target-for-northern-ireland/>

⁸ National Infrastructure Commission report Smart Power

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/505218/IC_Energy_Report_web.pdf

⁹ <https://www.carbontrust.com/resources/energy-storage-report-can-storage-help-reduce-the-cost-of-a-future-uk-electricity-system>

¹⁰ <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Northern-Ireland-Summary-Final.pdf>

¹¹ <http://aims.niassembly.gov.uk/officialreport/report.aspx?&eveDate=2020/02/03&docID=292480>